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Terms	Documents
l8 and L9	16

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L10

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<u>L10</u>	l8 and L9	16	<u>L10</u>
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<u>L7</u>	type adj II adj callus	120	<u>L7</u>
<u>L6</u>	L3 and l4	639	<u>L6</u>
<u>L5</u>	l1 and l2	13111	<u>L5</u>
<u>L4</u>	Agrobacter\$	3977	<u>L4</u>
<u>L3</u>	immature adj embryo	998	<u>L3</u>
<u>L2</u>	transgen\$ or transform\$	279914	<u>L2</u>
<u>L1</u>	corn or maize	70464	<u>L1</u>

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L21: Entry 1 of 1

File: USPT

Jan 7, 1997

US-PAT-NO: 5591616

DOCUMENT-IDENTIFIER: US 5591616 A

TITLE: Method for transforming monocotyledons

DATE-ISSUED: January 7, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hiei; Yokoh	Iwata-gun			JPX
Komari; Toshihiko	Iwata-gun			JPX

## ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Japan Tobacco, Inc.	Tokyo			JPX	03

APPL-NO: 8/ 193058 [PALM]

DATE FILED: May 3, 1994

## FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	4-204464	July 7, 1992

## PCT-DATA:

APPL-NO	DATE-FILED	PUB-NO	PUB-DATE	371-DATE	102(E)-DATE
PCT/JP93/00925	July 6, 1993	WO94/00977	Jan 20, 1994	May 3, 1994	May 3, 1994

INT-CL: [6] C12 M 15/00, C12 R 1/41

US-CL-ISSUED: 435/172.3; 435/172.1, 435/240.4, 435/240.45, 435/240.49, 435/240.5, 435/240.54, 435/320.1, 435/252.2, 800/205, 935/52, 935/55, 935/67

US-CL-CURRENT: 435/469; 435/252.2, 435/320.1, 435/424, 435/430.1, 435/480

FIELD-OF-SEARCH: 800/205, 435/240.4, 435/240.45, 435/240.49, 435/172.3, 435/320.1

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

**Search Selected****Search ALL**

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/>	<u>4940838</u>	July 1990	Schilperoort et al.	800/205
<input type="checkbox"/>	<u>5149645</u>	September 1992	Hoekema et al.	435/172.3
<input type="checkbox"/>	<u>5164310</u>	November 1992	Smith et al.	435/172.3
<input type="checkbox"/>	<u>5177010</u>	January 1993	Goldman et al.	435/172.3
<input type="checkbox"/>	<u>5187073</u>	February 1993	Goldman et al.	435/172.3

## FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
116718	August 1984	EPX	435/172.3
120516	October 1984	EPX	
159418	October 1985	EPX	
176112	April 1986	EPX	
290799	November 1988	EPX	
320500	June 1989	EPX	
90411681	December 1990	JPX	
WO89/12102	December 1989	WOX	
9209696	June 1992	WOX	

## OTHER PUBLICATIONS

Mooney et al. (1991) Plant Cell Tissue & Organ Culture, vol. 25, pp. 209-218.  
 Sangwan et al. (1991) Mol. and Gen. Genetics, vol. 230, pp. 475-485.  
 Chem. Abstracts (1988) vol. 109(13), Abstract No. 105884.  
 Yao et al. (1990) Chinese J. Bot 2(2):81-87.  
 Chan et al. (1993) Plant Molecular Biology 22:491-506.  
 Lee et al. (1991) Proc. Nat'l. Acad. Sci. USA 88(15):6389-93.  
 Li et al. (1991) Science in China (Series B), vol. 34(8), pp. 923-931.  
 Chan et al. (1992) Plant Cell Physiol. 33(5) pp. 577-583.  
 Li et al. (1991) Science in China (Series B), vol. 34(1), pp. 54-63.  
 Lupotto et al. (1988) Maydica 33:163-177.  
 Mikami et al. (1988) Plant Cell, Tissue and Organ Culture 12:311-314.  
 Saito et al. (1992) Theoretical and Applied Genetics 83:679-683.  
 Komari et al. (1989) Theoretical and Applied Genetics 77:547-552.  
 Komari (1989) Plant Science (1989) 60:223-229.  
 Drlica et al. (1974) Proc. Natl. Acad. Sci. USA 71:3677-3681.  
 Pietrzak et al. (1986) Nucleic Acids Research 14:5857-5868.  
 Ohta et al. (1990) Plant Cell Physiol. 31(6):805-813.  
 Murashige et al. (1962) Physiologia Plantarum 15:473-497.  
 Toriyama et al. (1985) Plant Science 41:179-183.  
 Ditta et al. (1980) Proc. Natl. Acad. Sci. USA 77:7347-7351.  
 Horsch et al. (1984) Science 223:496-499.  
 Herrera-Estrella et al. (1983) The EMBO Journal 2(6):987-995.  
 Jin et al. (1987) Journal of Bacteriology 169(10):4417-4425.  
 Komari et al. (1986) Journal of Bacteriology 166(1):88-94.  
 Linsmaier et al. (1965) Physiologia Plantarum 18:100-127.  
 Hood et al. (1984) Biotechnology 2:702-709.  
 Hood et al. (1986) Journal of Bacteriology 168(3):1283-1290.  
 Toriyama et al. (1988) Bio/Technology 6:1072-1074.  
 Shimamoto et al. (1989) Nature 338:274-277.  
 Rhodes et al. (1988) Science 240:204-207.  
 Zhang et al. (1988) Theoretical and Applied Genetics 76:835-840.  
 Datta et al. (1990) Bio/Technology 8:736-740.  
 Gordon-Kamm et al. (1990) The Plant Cell 2:603-618.  
 Christou et al. (1991) Bio/Technology 9:957-962.  
 Fromm et al. (1990) Bio/Technology 8:833-839.  
 T opfer et al. (1989) The Plant Cell 1:133-139.  
 Caboche et al. (1990) Physiol. Plant. 79:173-176.  
 Gad et al. (1990) Physiologia Plantarum 79:177-183.  
 Neuhaus et al. (1987) Theoretical and Applied Genetics 75:30-36.

The Botanical Review 390-466.

Bytebier et al. (1987) Proc. Natl. Acad. Sci. USA 84:5345-5549.

Sch afer et al. (1987) Nature 327:529-533.

Grimsley et al. (1987) Nature 325(8):177-179.

Grimsley et al. (1988) Bio/Technology 6:185-189.

Grimsley et al. (1989) Mol Gen Genet 217:309-316.

Gould et al. (1991) Plant Physiol. 95:426-434.

Chih-ching (1981) Plant Tissue Culture, Pitman, Boston, pp. 43-50.

Gritz et al. (1983) Gene 25:179-188.

De Greve et al. (1981) Plasmid 6:235-248.

Luo et al. (1988) Plant Molecular Biology Reporter 6(3):165-174.

Raineri et al. Bio/technology vol. 8 pp. 33-38 Jan. (1990).

Potrykus. Bio/technology Jun. (1990) pp. 535-542.

ART-UNIT: 183

PRIMARY-EXAMINER: Benzion; Gary

ATTY-AGENT-FIRM: Birch, Stewart, Kolasch & Birch, LLP

#### ABSTRACT:

A method for transforming a monocotyledon by which the time required from transformation to regeneration of a plant is shorter so that the frequency of emergence of mutants is smaller than the conventional methods, which may be generally applied even to the plants for which the regeneration method from a protoplast to a plant has not been established, and with which the preparation of the material to be subjected to the method is easy. That is, the present invention provides a method for transforming a monocotyledon comprising transforming a cultured tissue during dedifferentiation process or a dedifferentiated cultured tissue of said monocotyledon with a bacterium belonging to genus Agrobacterium containing a desired gene.

25 Claims, 1 Drawing figures

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L8: Entry 1 of 5

File: USPT

Apr 9, 2002

US-PAT-NO: 6369298

DOCUMENT-IDENTIFIER: US 6369298 B1

TITLE: Agrobacterium mediated transformation of sorghum

DATE-ISSUED: April 9, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Cai; Tishu	Ellisville	MO		
Pierce; Dorothy A.	Urbandale	IA		
Tagliani; Laura A.	Zionsville	IN		
Zhao; Zuo-Yu	Johnston	IA		

## ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE	CODE
Pioneer Hi-Bred International, Inc.	Des Moines	IA				02

APPL-NO: 9/ 056418 [PALM]

DATE FILED: April 7, 1998

## PARENT-CASE:

CROSS-REFERENCE This application claims the benefit of U.S. Provisional Application No. 60/045,121, filed Apr. 30, 1997.

INT-CL: [7] A01 H 1/00, A01 H 5/00, C12 N 5/04, C12 N 5/10, C12 N 15/84

US-CL-ISSUED: 800/294; 435/419, 435/430.1, 435/469, 800/320

US-CL-CURRENT: 800/294; 435/419, 435/430.1, 435/469, 800/320

FIELD-OF-SEARCH: 435/320.1, 435/430.1, 435/469, 435/419, 800/294, 800/320

PRIOR-ART-DISCLOSED:

## U.S. PATENT DOCUMENTS

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PAT-NO

ISSUE-DATE

PATENTEE-NAME

US-CL

5591616

January 1997

Hiei et al.

435/172.3

## FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
0 604 662	June 1993	EPX	
0 672 752	January 1994	EPX	
0 586 355	March 1994	EPX	
0 687 730	June 1994	EPX	
0 604 662	July 1994	EPX	
0 672 752	September 1995	EPX	
0 687 730	December 1995	EPX	
0 709 462	January 1996	EPX	

## OTHER PUBLICATIONS

Ko, et al, "In Vitro" May 20-24, 1995, Congress on In Vitro Biology Denver Co., vol. 31, No. 3, Pt2, 71A.\*  
Vain, P., et al., "Foreign Gene Delivery into Monocotyledonous Species", Biotechnology Advances, 13 (4):653-671 (1995).  
Casas, et al., "Transgenic Sorghum Plants Via Microprojectile Bombardment", Proc. Natl. Acad. Sci. USA, 90:11212-11216 (1993).  
Safaraliev, et al., "Preparation and Properties of Polycrystalline SiC-AIN Solid Solutions", Semiconductors, 27(3):224-227 (1993).  
Weeks et al., "Rapid Production of Multiple Independent Lines of Fertile Transgenic Wheat (Triticum aestivum)", Plant Physiol., 102:1077-1084 (1993).  
Christou et al., "The Impact of Selection Parameters on the Phenotype and Genotype of Transgenic Rice Callus and Plants", Transgenic Research 4:44-51 (1995).  
Wilson et al., Maize, pp. 65-80 (1995).  
Godwin et al., "Transgenic Grain Sorghum (Sorghum bicolor) Plants Via Agrobacterium", Improvement of Cereal Quality by Genetic Engineering, pp. 47-53 (1994).  
McElroy et al., "Foreign Gene Expression in Transgenic Cereals", TIBTECH, 12:62-68 (1994).  
Ishida et al., "High Efficiency Transformation of Maize (Zea mays L.) Mediated by Agrobacterium tumefaciens", Nature Biotechnology, 14:745-750 (1996).  
Casas et al., "Transgenic Sorghum Plants Via Microprojectile Bombardment", Proc. Natl. Acad. Sci. USA, 90:11212-11216 (1993).  
Kononowicz et al., "New Vistas Are Opened for Sorghum Improvement by Genetic Transformation", African Crop Science Journal, vol. 3, No. 2:171-180 (1995).  
Casas et al., "Cereal Transformation Through Particle Bombardment", Plant Breeding Reviews, 13:235-264 (1995).  
Walden et al., "Gene-Transfer and Plant-Regeneration Techniques", TIBTECH, 13:324-331 (1995).

ART-UNIT: 1638

PRIMARY-EXAMINER: McElwain; Elizabeth F.

ASSISTANT-EXAMINER: Collins; Cynthia

ATTY-AGENT-FIRM: Pioneer Hi-Bred International, Inc.

## ABSTRACT:

Methods and compositions for the efficient transformation of sorghum is provided. The method involves infection with Agrobacterium, particularly those comprising a super-binary vector. In this manner, any gene of interest can be introduced into the sorghum plant. The transformed gene will be flanked by at least one T-DNA border and present in the transformed sorghum in low copy number. Transformed sorghum, cells, tissues, plants, and seed are also provided. The invention encompasses regenerated, fertile sorghum plants, transgenic seeds produced therefrom, T1 and subsequent generations.

28 Claims, 2 Drawing figures